

**Town of Prescott Valley, Arizona**  
**Water and Sewer Rate Study Report**  
**July 14, 2011**

**I. PURPOSE:**

The primary purpose of this Water and Sewer Rate Study (Study) is to develop multi-year financial projections for the Town of Prescott Valley (Town) Water System (Water) and the Town's Wastewater System (Wastewater), and to establish the service and treatment rates at a level related to the total cost of providing those services. The Water System historically was divided into two separate areas: a newer "Town" system providing services to residents and businesses north of State Route 89A and to the Yavapai County Fairgrounds, and an older "District" system providing services to all of the other residents and businesses of Prescott Valley as well as those in Castle Canyon Mesa and Prescott Country Club.

However, on March 13, 2008, by Resolution No. 1570, the Prescott Valley Water District was dissolved and the assets of the Prescott Valley Water Company were merged into the Town's water system. Yet, combination of the assets under a single management did not remove the disparity in utility rate structures between the systems. This disparity was the result of the age difference between the two systems and the fact that bond financing had been necessary for the District system, but not the Town system. In 2009, the revenues and the expenditures for both systems were combined and in 2010, only system capacity charges remain different in the rate structure. [Note: this Study does not include an analysis of the current connection charges for either of these areas.]

When establishing service and treatment rates, the following issues must be considered:

- Cost of service;
- Pricing to encourage conservation, limit demand or discourage waste; and
- Financial performance measures such as debt service coverage and cash reserve requirements.

Any proposed increases to service and treatment rates must be based on the following criteria:

- Sufficiency – any service and treatment rate increase should be sufficient to recover the full cost of administration and enforcement, recognizing that adjustments may be necessary for the benefit of the public;
- Efficiency – service and treatment rates should be designed for easy, inexpensive administration and compliance by the individual/business paying the said rates; and
- Simplicity – service and treatment rates should be easily understood by payees and administrators, limiting the possibility of subjective interpretations.

## II. OBJECTIVES:

An objective of the Town is to annually review its respective rate structures and to recommend small, incremental rate adjustments as necessary. Based on public financing obligations, the Town is legally required to maintain minimum debt service coverage and minimum cash reserves. These obligations are reiterated in the Town Financial Policies.

Therefore, this study attempts to meet the following objectives:

- Compile and interpret historical financial results;
- Update the rate and financial planning model for the Town utilities as originally developed by outside consultants;
- Design service and treatment rates based upon projected revenue requirements and estimated expenditures (both operating and capital); and
- Comply with bond indentures and financial policies.

**Bond indentures require that the Town maintain a minimum net revenue to annual debt service (both principal and interest) coverage ratio of at least 1.25:1 times (1.50:1 times if additional debt is to be issued).**

Net revenues represent the difference between operating revenues (e.g. service and treatment rates, connection charges, new account fees and other fees, charges and penalties) and operating expenditures (all expenditures except capital outlay, debt service and depreciation). The Town's ultimate goal is to maintain a minimum ratio of net revenue to debt service of 1.60:1 to ensure debt coverage in times of revenue fluctuations attributable to weather or other causes, and to ensure a balanced "pay-as-you-go" capital improvement plan. Also, the Town Financial Policy requires maintaining a minimum cash reserve equal to 90 days (approximately 25%) of operating expenditures.

For this particular Study, staff has as an objective to also keep current other rates, fees and charges of the Town, and is including these items in this Study. Changes proposed would be included in the Town's Water Rates, Fees and Charges. Further discussion of these items and the recommended changes are addressed in section VI. Recommendations.

**III. CURRENT UTILITY RATES (last revision November 1, 2010):**

**A. Water Service Rates – Water System:**

The following table shows the current water service rates for both the Prescott Valley Water System (monthly base user rates – per billing period, and volume rates - per 1,000 gallons).

Description	Meter Size	Prescott Valley Water System
MONTHLY BASE RATES	5/8" & 3/4"	\$ 9.00
	1"	13.50
	1 1/2"	18.00
	2"	22.50
	3"	27.00
	4"	31.50
	6"	36.00
	8"	40.50
USAGE CHARGES	Block 1	\$ 3.02
	Block 2	3.62
	Block 3	4.71

Customers' meters are generally read on a monthly basis, and their bills are based on every **thousand gallons** of water read. Base user rates and volume rates are each based on meter size. The following chart illustrates the different block rates based on meter size. The block 1 water use allowance for a 5/8" or 3/4" meter is up to 9 thousand gallons. For use between 9 thousand and up to 20 thousand gallons, the block 2 rate applies. For all usage over 20 thousand gallons, the highest rate - \$4.71 (former District Water) and \$4.32 (former Municipal Water) applies. The block usage allowances increase as the meter size increases.

Prescott Valley Water System Usage Block (gallons based on meter size)			
\$/1,000 gallons	\$3.02	\$3.62	\$4.71
Meter Size	Block 1	Block 2	Block 3
5/8" & 3/4"	0 – 8	9 – 20	> 20
1"	0 – 14	15 – 34	> 34
1 1/2"	0 – 26	27 – 66	> 66
2"	0 – 42	43 – 106	> 106
3"	0 – 86	87 – 214	> 214
4"	0 – 134	135 – 334	> 334
6"	0 – 266	267 – 666	> 666
8"	0 – 427	428 – 1,067	> 1,067

For example, if a customer resides in the Water System area and uses 10 thousand gallons (assuming 3/4" meter) in a month, that customer's monthly water bill (excluding wastewater rates, fees, taxes and other charges) would be calculated as follows:

Base User Rate			\$ 9.00
Volume Rate (in thousands):			
Block 1 (0 – 8)	8 kgals	\$3.02 x 8 =	\$24.16
Block 2 (9 – 20)	2 kgals	\$3.62 x 2 =	<u>\$ 7.24</u>
			\$31.40
Total monthly water bill (excluding taxes)	10 kgals.		<u>\$40.40</u>

**B. Wastewater Treatment Rates – Wastewater System:**

The Town’s current wastewater treatment rates are as follows (monthly base user rates – per billing period, and volume rates - per 1,000 gallons):

Description	Meter Size	Wastewater
MONTHLY BASE RATES	5/8” & 3/4”	\$ 5.07
	1”	8.06
	1 1/2”	11.06
	2”	14.05
	3”	17.04
	4”	20.03
	6”	23.03
	8”	26.02
VOLUME RATE	All	<u>\$/1,000 gallons</u> \$ 3.94

A residential customer’s wastewater bill is based on each residential unit’s average metered water use for each account for the months of November through March (winter average), times 90%, OR actual water usage (whichever is lower). Bills for commercial and industrial customers are based on actual metered water usage.

For example, if a residential customer has a winter average of 6,000 gallons (but only uses 5,000 gallons during a particular month), the customer’s wastewater bill will be based on the 5,000 gallons actually used. The wastewater bill (excluding water rates, fees, taxes and other charges) would be calculated as follows:

Base User Rate (assuming 3/4” meter)		\$ 5.07
Volume Rate	\$3.94 x 5	<u>\$19.70</u>
Total monthly wastewater bill (excluding taxes):	5 kgals.	<u>\$24.77</u>

#### IV. GROWTH AND INFLATION ASSUMPTIONS:

This Study involves a variety of assumptions about future revenues, expenses and capital expenditures. Estimates of growth in water and wastewater utility accounts are based on historical information. Because growth and inflation do not remain constant, it is extremely important to annually review and update the assumptions.

##### A. Revenue and Expenditures Projections:

Based on historical and anticipated costs for personnel services, other operating expenses (i.e. electricity, professional services, etc.), anticipated capital improvements and contracts with the current private operator of the water and wastewater system (CH2MHill OMI), the following general inflation increases are projected:

	General Inflation Factors				
	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
Personnel Services	-2.5%	5%	5%	5%	5%
Other Operating Expenses	3%	10%	10%	10%	10%
Capital Outlays/Improvements	0%	0%	0%	0%	5%
OMI Contracts	0%	5%	5%	5%	5%

Projected revenues for the system are based on the projected number of accounts (see below) and the proposed rate increases in this Report as needed to maintain compliance with bond indentures and financial policies, and to build cash reserves to fund planned capital projects:

		Revenue Inflation Factors				
		FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
<b>VALUES USED</b>		<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>	<b>1.00%</b>
<b>Account Growth/Usage Fees</b>						
Projected Accounts-Water	18,039*	18,110 0.33%	18,237 0.70%	18,364 0.70%	18,491 0.69%	18,618 0.69%
Projected Accounts-Wastewater	15,326*	15,390 0.35%	15,505 0.75%	15,619 0.74%	15,734 0.74%	15,848 0.72%

\* Actual number of accounts as of June 2011.

Generally, no one factor (i.e. revenue and expenditure projections, number of customers, gallons billed, etc.) affects utility rates unless the change is severe (e.g. dramatic increase in expenditures or decline in gallons billed), but an increase to rates is the result of changes to a combination of the factors listed above.

**V. FIVE-YEAR CASH FLOW SUMMARY – Combined Operating and Capital (Growth):**

This section provides expected scenarios in the event the projected growth and inflation from above were to occur **without** any increases to either one of the rate structures.

**A. Water System**

As shown below, the Water System is projected to fall short of required financial performance criteria. Beginning in FY 2012-13, the Water System does not meet the minimum debt service coverage test. There are various contributing factors to these declines: Revenues are increasing at a slower rate than expenditures, especially in the area of capacity fees and usage fees. New housing construction continues to be an issue. This has a direct effect on capacity fees, revenue projections and base fees. Also, even though the System has adequate cash reserves, the projected ending balances continue to decline. Beginning in FY 2013-14, the Water System will not meet the minimum cash reserve requirements. In order to improve the financial performance and meet the minimum debt service coverage ratio, an increase in either the utility rates or consumption will be necessary in future years.

	<b>Base Year</b>					
	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>
<b>Operating Revenues:</b>						
Usage Fees	\$6,916,759	\$6,961,718	\$6,984,692	\$7,007,741	\$7,030,867	\$7,053,366
Capacity Fees	74,906	89,924	90,976	92,046	95,309	97,087
Water Meter Charge	22,985	23,674	24,385	25,116	25,870	26,646
Interest Income	65,805	29,839	103,446	85,469	(5,104)	(37,025)
Miscellaneous	262,583	275,000	300,688	326,439	352,255	378,136
Total Operating Revenue	<u>7,343,038</u>	<u>7,380,155</u>	<u>7,504,186</u>	<u>7,536,812</u>	<u>7,499,197</u>	<u>7,518,209</u>
<b>Operating Expenses:</b>						
Administrative Services - Town	600,165	585,161	614,419	645,140	677,397	711,267
Contract - OMI	2,010,960	2,010,960	2,111,508	2,217,083	2,327,938	2,444,334
Other Operating Expenses	1,933,170	1,991,165	2,190,282	2,409,310	2,650,241	2,915,265
Transfer to Reclaimed Fund	317,842	244,743	414,743	424,049	371,401	381,274
Amortization/Depreciation	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
Total Operating Expenses	<u>6,212,137</u>	<u>6,182,029</u>	<u>6,680,952</u>	<u>7,045,582</u>	<u>7,376,976</u>	<u>7,802,140</u>
<b>Operating Income (Loss)</b>	1,130,901	1,198,126	823,235	491,230	122,221	(283,931)
<b>Other Expenditures:</b>						
Debt Service - Existing	4,706,458	1,879,482	1,850,854	1,856,223	1,825,931	1,854,225
Total Other Expenditures	<u>4,706,458</u>	<u>1,879,482</u>	<u>1,850,854</u>	<u>1,856,223</u>	<u>1,825,931</u>	<u>1,854,225</u>
<b>Net Operating Income (Loss)</b>	(3,575,557)	(681,356)	(1,027,619)	(1,364,992)	(1,703,710)	(2,138,155)
<b>Capital Financing / (Expenditures)</b>						
Capital Expenditures	(351,500)	(600,500)	(1,297,000)	(4,594,000)	(1,950,000)	(8,174,280)
Net Capital Funding	<u>(351,500)</u>	<u>(600,500)</u>	<u>(1,297,000)</u>	<u>(4,594,000)</u>	<u>(1,950,000)</u>	<u>(8,174,280)</u>
Net Income (Loss)	(3,927,057)	(1,281,856)	(2,324,619)	(5,958,992)	(3,653,710)	(10,312,434)
Cash and Cash Equivalents at BOY	8,544,996	5,967,939	6,036,083	5,061,464	452,472	(1,851,339)
Add Back Amortization/Depreciation	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
<b>Total Cash and Investments at EOY</b>	<u>\$5,967,939</u>	<u>\$6,036,083</u>	<u>5,061,464</u>	<u>\$452,472</u>	<u>(\$1,851,238)</u>	<u>(10,813,672)</u>
<b>Cash Reserve Ratio (15%)</b>	123%	125%	95%	8%	-31%	-168%
<b>Debt Service Coverage Ratio 1.25</b>	0.53	1.36	1.17	0.99	0.81	0.57

**B. Wastewater System**

As shown below, beginning in FY 2010-11, the Wastewater System will not sufficiently meet the required debt service coverage ratio. Various factors contribute to the decrease in the debt service coverage test. The primary factor is projected expenditures are increasing at a faster rate than projected revenues (especially in the area of capacity fees and usage fees). The number of gallons billed has been flat compared to the previous year. Based on current assumptions, growth as it relates to new customers will increase by less than 1%.

Beginning in FY 2011-12, in order to meet the debt service coverage ratio, an increase to the wastewater rates will be necessary. In FY 2015-16, the projected cash balances will be negative, based on the anticipated improvements to the Wastewater Treatment Plant. In order to maintain an adequate debt service coverage ratio and eliminate the negative cash balance, staff anticipates making small revisions to the rates over the next four years and by issuing bonds or delaying the proposed improvements. The housing market will have to improve to avoid issuing bonds to fund new infrastructure.

	<b>Base Year</b>					
	<b>FY 2010-11</b>	<b>FY 2011-12</b>	<b>FY 2012-13</b>	<b>FY 2013-14</b>	<b>FY 2014-15</b>	<b>FY 2015-16</b>
<b>Operating Revenues:</b>						
Usage Fees	\$4,095,000	\$4,107,695	\$4,120,429	\$4,132,790	\$4,145,188	\$4,157,624
Capacity Fees	140,738	60,961	62,190	63,438	64,702	68,528
Penalty Fees	110,460	103,774	106,887	110,094	113,396	116,798
Interest Income	70,325	27,935	27,935	26,967	21,492	13,058
Miscellaneous	31,010	10,000	10,000	10,000	10,000	10,000
<b>Total Operating Revenue</b>	<b>4,447,533</b>	<b>4,310,364</b>	<b>4,327,441</b>	<b>4,343,289</b>	<b>4,354,779</b>	<b>4,366,008</b>
<b>Operating Expenses:</b>						
Administrative Services - Town	470,924	459,151	482,109	506,214	531,525	558,101
Contract - OMI	788,556	788,556	827,984	1,074,980	1,128,729	1,185,165
Other Operating Expenses	1,199,987	1,029,986	1,132,985	1,246,283	1,370,912	1,508,003
Amortization/Depreciation	3,010,000	3,010,000	3,010,000	3,010,000	3,010,000	3,010,000
<b>Total Operating Expenses</b>	<b>5,469,467</b>	<b>5,287,693</b>	<b>5,453,077</b>	<b>5,837,477</b>	<b>6,041,165</b>	<b>6,261,269</b>
<b>Operating Income (Loss)</b>	<b>(1,021,934)</b>	<b>(977,329)</b>	<b>(1,125,637)</b>	<b>(1,494,188)</b>	<b>(1,686,387)</b>	<b>(1,895,261)</b>
<b>Other Expenditures:</b>						
Debt Service - Existing	1,787,406	1,787,688	1,796,391	1,795,886	1,797,290	1,792,970
<b>Total Other Expenditures</b>	<b>1,787,406</b>	<b>1,787,688</b>	<b>1,796,391</b>	<b>1,795,886</b>	<b>1,797,290</b>	<b>1,792,970</b>
<b>Net Operating Income (Loss)</b>	<b>(2,809,339)</b>	<b>(2,765,017)</b>	<b>(2,922,029)</b>	<b>(3,290,075)</b>	<b>(3,483,677)</b>	<b>(3,688,231)</b>
<b>Capital Financing / (Expenditures)</b>						
Capital Expenditures	-	(245,000)	(475,000)	(1,910,000)	(2,900,000)	(5,117,281)
<b>Net Capital Funding</b>	<b>-</b>	<b>(245,000)</b>	<b>(475,000)</b>	<b>(1,910,000)</b>	<b>(2,900,000)</b>	<b>(5,117,281)</b>
Cash and Cash Equivalents at BOY	10,973,364	11,174,025	11,174,008	10,786,980	8,596,905	5,223,228
Add Back Amortization/Depreciation	3,010,000	3,010,000	3,010,000	3,010,000	3,010,000	3,010,000
<b>Total Cash and Investments at EOY</b>	<b>\$11,174,025</b>	<b>\$11,174,008</b>	<b>10,786,980</b>	<b>8,596,905</b>	<b>\$5,223,227</b>	<b>(572,285)</b>
<b>Cash Reserve Ratio (25%)</b>	<b>454%</b>	<b>491%</b>	<b>442%</b>	<b>304%</b>	<b>172%</b>	<b>-18%</b>
<b>Debt Service Coverage Ratio 1.25</b>	<b>1.11</b>	<b>1.14</b>	<b>1.05</b>	<b>0.84</b>	<b>0.74</b>	<b>0.62</b>

**VI. RECOMMENDATIONS:**

**A. Water System**

**Water System Financial Planning Recap**

Beginning in FY 2012-13, additional revenue increases (either rate increases or consumption) will be required to meet the minimum debt service coverage. Unless there is a significant change in the housing market or capital growth-related projects are delayed, the Town would need to issue additional bonds to fund a portion of its capital improvement requests and to maintain the required minimum cash reserves in FY 2013-14 and FY 2015-16.

Description	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
<b>PRESCOTT VALLEY WATER</b>						
Revenue Increase (Decrease)	0%	0%	5%	10%	10%	10%
Effective Month of Revenue Change	5	5	5	5	5	5
Loan Proceeds						
Operating Non-Growth	\$0	\$0	\$0	\$0	\$0	\$0
Development – Growth	--	--	--	4,000,000	--	8,000,000
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,000,000</b>	<b>\$0</b>	<b>\$8,000,000</b>
Cash Balance – End of Year						
Operating Non-Growth Fund 511	\$3,401,481	\$3,447,560	\$2,588,863	\$2,200,699	\$2,336,540	\$3,286,496
Development – Growth Fund 551	2,566,458	2,589,214	2,706,083	3,048,909	2,058,260	1,936,845
<b>Total</b>	<b>\$5,967,939</b>	<b>\$6,036,774</b>	<b>\$5,294,946</b>	<b>\$5,249,608</b>	<b>\$4,394,800</b>	<b>\$5,223,341</b>
Total Fund Cash Reserves Target: 15%	123%	125%	99%	92%	73%	81%
Debt Service Coverage Target: 1.25	.53	1.36	1.30	1.26	1.52	1.37

The debt service coverage in FY 2010-11 is low due to the defeasance of a bond issue.

Based on the current assumptions and growth projections and anticipated cash reserves, staff is **not recommending an increase for the Prescott Valley Water System. No changes to the fixed (base) rate for the Water System are being proposed at this time.**

**B. Wastewater System**

**Wastewater System Financial Planning Recap**

Beginning in FY 2011-12, additional revenue increases (either rate increases or consumption) will be required to meet the minimum debt service coverages. Beginning in FY 2013-14, unless there is a significant change in the housing market or capital growth-related projects are delayed, the Town would need to issue additional bonds to fund a portion of its capital improvement requests and to maintain the required minimum cash reserves.

Description	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
<b>PRESCOTT VALLEY WASTEWATER</b>						
Revenue Increase (Decrease)	6%	14%	5%	10%	10%	10%
Effective Month – Revenue Change	5	5	5	5	5	5
Loan Proceeds						
Operating Non-Growth	\$0	\$0	\$0	\$0	\$0	\$4,000,000
Development – Growth	--	--	--	--	--	--
Total	\$0	\$0	\$0	\$0	\$0	\$4,000,000
Cash Balance – End of Year						
Operating Non-Growth Fund 501	\$9,731,149	\$11,166,973	\$12,639,031	\$12,735,524	\$12,202,423	\$13,370,199
Development – Growth Fund 552	1,442,876	502,120	(447,975)	(1,398,050)	(2,346,576)	(3,291,607)
Total	\$11,174,025	\$11,669,093	\$12,191,056	\$11,337,474	\$9,855,847	\$10,078,592
Total Fund Cash Reserves Target: 15%	454%	512%	499%	401%	325%	310%
Debt Service Coverage Target: 1.25	1.11	1.41	1.55	1.59	1.79	1.65

In FY 2010-11 the debt service coverage is below the target minimum. Based on the current assumptions and growth projections and anticipated cash reserves, staff is recommending **an increase to the volume rate of the Wastewater System. The base rate for the system would remain unchanged.** The above financial planning recap does include the current wastewater connection charges.

Description	Current	Proposed	Difference	Difference
Volume Rate (\$/1,000 gallons)				
Residential/Multi-Family	\$3.94	\$4.48	\$.54	14%
Non-Residential	\$3.94	\$4.48	\$.54	14%

**C. Other Recommended Changes**

Other recommended changes are:

1. An increase in water and wastewater deposits,
2. A change in how Multi-Family deposits are calculated and,
3. Invoicing an Arizona Department Water Resources (ADWR) flat rate pro-rata fee.

Recommended Changes	Current Amount	Proposed Amount
Water Deposit	\$90.00	\$100.00
Wastewater Deposit	\$40.00	\$50.00
ADWR Fee	\$0.00	\$.46

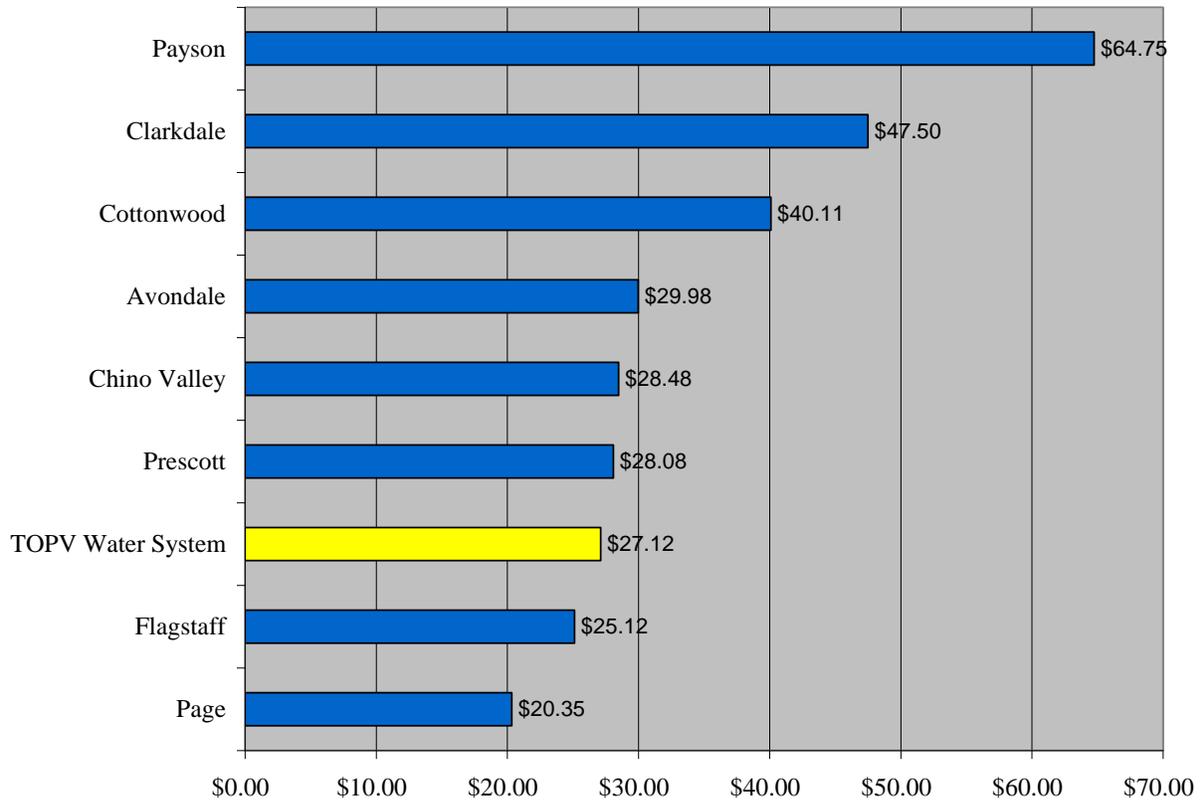
Staff is proposing a modest increase in water/wastewater deposits to more closely correspond to previous increases in the water/wastewater volume rates in the past three-five years. In addition, deposit amounts have not been changed in nearly a decade.

Multi-Family deposits will be calculated in the same manner as commercial deposits when there is existing usage on which to base deposits. Multi-Family deposits, formerly calculated like residential deposits, will be calculated like Commercial deposits if there is no usage at the premise. Commercial deposits are calculated on the basis of two times the estimated monthly average billing when there is existing usage at the premise. Otherwise Multi-Family deposits are calculated based on the number of Fixture Units at the premise if there is no usage.

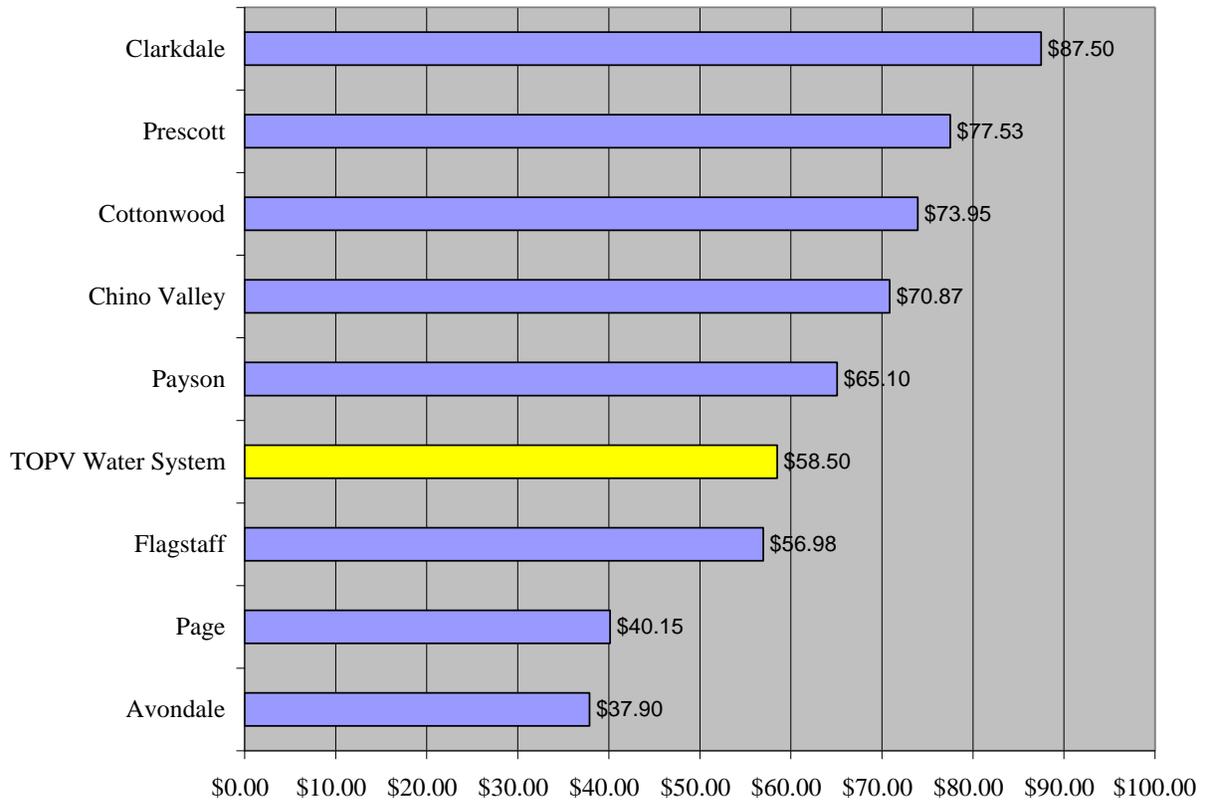
The ADWR flat rate fee is based on a yearly assessment imposed by ADWR. It will be invoiced to active water customers on a monthly basis.

**VII. COMPARISON OF WATER RATES WITH OTHER CITIES:**

The following chart shows what a typical customer would pay if they used 6,000 gallons of water per month (assuming a 3/4" meter).



The following chart shows what a typical customer would pay if they used 15,000 gallons of water per month (assuming a ¾" meter).



The following chart shows what a typical customer would pay if they used 24,000 gallons of water per month (assuming a ¾" meter).

